



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,868	10/12/2006	Robert Desbrandes		5857

7590 02/03/2012
E-Quantic Communications SARL a capital variable
Allee des Cheriniers
Givarlais, F-03190
FRANCE

EXAMINER

MONDT, JOHANNES P

ART UNIT	PAPER NUMBER
----------	--------------

2894

MAIL DATE	DELIVERY MODE
-----------	---------------

02/03/2012

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,868	Applicant(s) DESBRADES ET AL.	
	Examiner JOHANNES P. MONDT	Art Unit 2800	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2012.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 47-93 is/are pending in the application.
- 5a) Of the above claim(s) 47-68 and 86-93 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 69-85 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☒ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 13, 2012, has been entered.

Response to Amendment

2. The Declarations under 37 CFR 1.132 filed as Appendices A, B, C, D, E, F and G filed January 13, 2012, are insufficient to overcome the rejection of claims 69-85 based upon 35 U.S.C. 101 and 35 U.S.C. 112, first and second par., as set forth in the last Office action because nothing in the Declarations by the inventor removes the serious lack of credibility that applicant had achieved the identification of entanglement of the gamma rays, which is an admitted to be at the root of the claimed method: especially because of the extremely novel invention as claimed, it is of the essence to have a degree of confidence proportional to said degree of novelty: especially in this light a 66% confidence level is not persuasive (Appendix B). Nowhere does applicant identify pairs of entangled gamma rays (Appendices A-G). The statistical analysis is thus not adequate to persuade that applicant has achieved the claimed method's utility, which implies remote communication at a speed exceeding the speed of light. Some of the statistical analysis has not even been performed and the results were admitted by

Art Unit: 2800

Declaration to be mixed (Appendix E). Appendix merely is what applicant identifies and asserts to be a “publication”. No identification was made regarding the publication source, nor, most importantly, whether the “publication” was submitted to a refereeing process, if not, the question is raised as to why applicant did not submit the article to a reputed journal with refereeing process; while if so, the question should be raised as to what did the referees conclude. Examiner further includes by reference previous reasons why the previous Declaration was found to be ineffective.

3. In light of the copy of the translation of the parent the objection to the amendment of the specification under “Response to Amendment” for the introduction of new matter as set forth in section 1 of the prior Office Action is herewith withdrawn.

Specification

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The Specification is objected to for failing to support the claimed invention by either a credible asserted utility or by a well-established utility, while the method as claimed is so insufficiently developed and supported in the specification as to be wholly inoperative. Applicant is referred to a recent review on quantum entanglement around the time of his invention (Genovese, M., Physics Reports 413 319-396 (2005)) in which the history of research on the much simpler case of photon entanglement together with

Art Unit: 2800

all the difficulties of resolution and timing in painstaking experimental work over decades is reviewed. See, for instance, the concluding statement at the end of section 3.3 concerning resolution difficulties, which are discussed extensive elsewhere in Genovese. In contrast, applicant hardly presents any experimental data and presents no error analysis in connection with his experimental data. Applicant fully and casually ignores the huge problem of resolution in identifying the detector signals relevant for the experiment, and of timing. The time-honored way of proceeding is through basic research, with scrutinized and peer-reviewed experimental data, complete with error analysis. This is what Aspect and co-workers, and Horne-Zeilinger, and Shimoni-Holt etc., did (see, e.g., the discussion of references 34 and 83 in Genovese). In other words, evaluated, experimental data lending credibility to applicant's claims. In the absence thereof, the inventive method is considered to lack a credible utility. No doubt the utility is not well established either.

5. The Specification is further objected to for failing to support the invention as claimed by an enabling disclosure. One of skill in the art would not know how to use the method for its stated and asserted purpose, because of the above-described difficulties with identification of individual measurement objects and timing. In this regard it is further noted that regarding the breadth of the claims it is noted that the "preamble" asserts the method to be a method of controlling a remote deexcitation of an excitation by gamma rays, for which however the specific isomeric nuclei would have to be identified by specific and extremely skillful measurement techniques including timing. The specification does not explain how this is carried out. Regarding the nature of the

Art Unit: 2800

invention and the state of the prior art, applicants' assertion in terms of the claim language would provide a true milestone in experimental physics if reduced to practice, yet the specification does not even provide the amount and quality of quantitative results expected in a basic research article. The level of ordinary skill is wholly inadequate to carry out the experimental work needed to use the invention for its stated purpose, because no one skill in the art has thus far succeeded while the specification does not provide specific directions and evaluated, experimental data to guide one skilled in the art. The level of predictability in the art is negligible, because the method as claimed would be a pioneering effort in basic research not supported by directions from applicant in terms of adequate working examples and evaluated, experimental data. It is noted that the remote communication is by its nature, due to the nonlocal character of the quantum mechanics, truly instantaneous, i.e., not subject to the speed of light in *vacuo* as an upper threshold (see Genovese and references therein). Thus truly basic experimental research, and hence undue experimentation would at best be required to practice the invention. In light of the foregoing considerations examiner concludes that the invention by applicant is not enabled by the disclosure (MPEP 2164.01(a)).

Claim Rejections - 35 USC § 101 - §112

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. ***Claims 69-85*** are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well established utility.

The reasons for this rejection are the same as those set forth in the objection to the specification in section 4 above.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claims 69-85** are also rejected under 35 U.S.C. 112, first paragraph.

Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 69-85** are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. The reason for this rejection is the same as the reason for the objection to the specification on account of the method being inoperative as set forth above in section 4.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2800

9. **Claims 69-85** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The reasons for this rejection are the same as the reasons for the objection to the specification as set forth above in section 5.

10. **Claims 69-85** are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well-established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claims 69-85** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The metes and bounds of the claimed invention are vague and ill-defined due to lack of written support by an enabling disclosure as set forth above (see sections 9-10 above), rendering the claims indefinite, because what lacks disclosure is indefinite.

Response to Arguments

12. Applicant's arguments filed January 13, 2012 have been fully considered but they are not persuasive. Specifically, examiner maintains herewith the objection to the

Art Unit: 2800

Specification under 35 U.S.C. 101 and 112, 1st par., as set forth in section 4, because of the following considerations.

Examiner understands and shares applicants' concern as expressed on the absence of any replication by anyone other than inventors (page 15). Although it is the solemn duty of the U.S. Patent Office to ascertain patentability, unlike perhaps such agencies as the N.I.S.T. (i.e., the former National Bureau of Standards) or the U.S. D.O.E (Department of Energy), it neither has the funds nor the physical possibility in terms of instrumentation and in-house expertise to verify applicant's results. Examiner's task is merely to determine whether or not there is a preponderance of evidence against the claimed invention being operative and against the asserted utility being credible (MPEP 2107, on 35 U.S.C. 101), to determine whether or not one of skill in the art would be required to carry out undue experimentation in order to practice the invention (see MPEP 2164.01(a)), to ascertain whether the claim language is sufficiently clear (35 U.S.C. 112, second par.), and to find out whether there is prior art showing that the claimed invention is not novel or would have been obvious at the time of the invention (35 U.S.C. 102 and 103, respectively). For reasons explained in "Response to Arguments" and section 4 of the prior Office Action herewith included by reference, examiner maintains the objections and rejection under 35 U.S.C. 101 and 112 because of the extraordinary nature of the invention and the total absence of independent verification, on account of which preponderance of evidence is against credible utility and operativeness, and on account of which one of skill in the art would be required to immerse himself/herself into what is a very sophisticated basic research program.

Art Unit: 2800

Granting a patent under such a circumstance would “*confer power to block off whole areas of scientific development, without compensating benefit to the public*”. Brenner, 383 U.S. at 534. “[A] patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion”. *Id.* At 536. Remarks on page 15 do not persuade otherwise because entanglement is quite narrower than simply being of high purity and having been irradiated during 20 minutes by a compact accelerator. In fact, examiner sees no connection at all. Applicant’s attempt of corroboration of entanglement is quite indirect, while apparently relying on entanglement being met when the gamma rays are emitted by one and the same electron. However, between emission the correlation generally undergoes other interactions. From the discussion on section 4 it is amply evident that applicants are engaged in a basic research program by themselves and try to get others involved through the instrument of attempting to obtain a patent. This is the wrong way of making progress for the reasons outlined above.

On applicants’ arguments on section 5 (pp. 19-21), traversing lack of enablement, examiner refers back to his discussion *supra* concerning the requirement that no skilled experimenter would be required to engage in undue experimentation, even basic research of which the essential physical element has not been established yet. The relation with Genovese’s review article and the basic references therein that historically established the nonlocal nature of the quantum physics in the case of photon entanglement is not non-existent as applicants’ assert (page 19) because the remote control and stimulation applications applicants assert as their utility stands or falls with the nonlocality of interactions between entangled particles; in Genovese said particles

Art Unit: 2800

are (visible) photons, in applicants' case the method relies on entangled included between special photons, gamma rays. Unlike the work discussed by Genovese, applicant's work is one of basic research in progress, with extraordinary claims and as yet unverified by others.

Given the amendments and the aforementioned considerations examiner maintains said objections and rejections under 35 U.S.C. 101 and 112, 1st and 2nd paragraph as set forth in the prior Office Action, as set forth supra.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHANNES P. MONDT whose telephone number is (571)272-1919. The examiner can normally be reached on 8:00 - 5:30.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOHANNES P MONDT/
Primary Examiner, Art Unit 2894